

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of Alfred B. Levine
Serial number 09/814,054
Filed 3-22-01
For: NON-COMPUTING NAVIGATION SYSTEM
Appeal from Art Unit 2876
Examiner S. Paik
Notice of Appeal 6-5-03

SECOND AMENDED BRIEF ON APPEAL

Hon. Commissioner of Patents

Sir:

Transmitted herewith by mail find three copies of the third Brief on Appeal filed in this application in response to the Office letter of 5-26-05.

The initial Brief on Appeal was filed on 7-10-03. The first Amended Brief was filed on 8-8-03 in response to the Examiner's technical requirements.

The EAAMINER'S ANSWER is awaited.

Respectfully submitted,

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**(1) REAL PARTY IN INTEREST**

Applicant, ALFRED B. LEVINE

(2) RELATED APPEALS AND INTERFERENCES

None

(3) STATUS OF CLAIMS

Cancelled claims 1 to 50, inclusive

Pending claims 51 to 58, inclusive, all on Appeal

(4) STATUS OF AMENDMENTS FILED AFTER FINAL REJECTION

A Request for Reconsideration was filed on April 29, 2003, after Final Rejection. Additionally, this request made technical correction to some of the claims as requested by the Examiner.

The Request for Reconsideration was denied by the Examiner. The proposed corrections to the claims to correct various informalities were not entered.



(5) SUMMARY OF THE CLAIMED INVENTION

The independent claims are numbered 51,55,58, 62,63,67, and 68.

Claims 51 and 55 cover a navigation system for vehicles that guide the vehicle by displaying only two uncluttered marking on a screen to the driver (FIG. 1, 14 and 15). The first marking 14 moves with the vehicle to show the vehicle's changing location, and the second marking 15 is fixed at the location of the destination selected by the driver. This system is shown in FIG.1 and described in the specification from page 3, line 18 to page 4, line 28.

The system does NOT COMPUTE any travel route or path (unlike the prior art), but guides the vehicle only by heading from the uncluttered two discrete marking 14 and 15 on the display (eg two flashing light dots 14,15). See Specification page 4, lines 12 to 28.

Claim 51 also specifies that the display is provided to the driver without diverting attention from safe driving (head's- up- display, eg. on the vehicle's windshield) . See specification page 6, lines 1 to 5.

Claim 55 covers the same combination as claim 51 but in different breadth.

Claim 51 has two "means plus function" clauses. The DETECTING MEANS for the changeable vehicle location marking or dot 14 is described on page 4, lines 1 to 3 The receiver 10 of FIG.1



responding to G.P. S. signals 13 to detect the changeable vehicle location.

The DISPLAY MEANS that functions to display the two flashing dots is described on page 3, line 18 to to page 4, , line 28—with reference to FIG. 1 of the drawings.

Claims 63 and 67 cover the same combination as do claims 51 and 55 discussed above but differ in breadth.

In claim 63, the COMMUNICATION MEANS plus function covers the display 10 in FIG.1 , as described in the Specification discussed above, to display the two uncluttered markings (eg flashing dots) that show the relative distances and directions between the present location of the vehicle and the fixed location of the destination location selected by the driver.

In claim 67, two means plus function clauses are set forth. The DETECTING MEANS plus function covers a detector in the receiver 10 shown in FIG.1, that responds to the G.P.S. signals 13 to detect the continually changing location of the vehicle as it proceeds. The COOMUNICATION MEANS plus function is also shown in FIG. 1. The receiver 10 is provided with a keyboard 12 that enables entry of the selected destination by the driver. The display screen 11 displays the two uncluttered markings 14 and 15 (flashing dots) to continuously show the location of the vehicle referenced to that of the selected destination. The sections of the Specification, referred to above, describe these components of the system and their interaction with one another.

Claim 62 covers a two phase navigation system for guiding a vehicle by directional heading alone in both of the two phases of operation. As claimed the system does not COMPUTE any travel route or path but permits the driver to select any desired routing.

This claim 62 covers the embodiment disclosed in FIG.1 and described in the Specification on page 4, line 18 to page 5, line 22.

The DIRECT COMMUNICATION means plus function corresponds to the receiver 10 shown in FIG.1, that receives G.P.S. signals 13 to generate a map-free display 11 showing only a flashing light dot 14 . A second flashing light dot 15 displays the fixed location of the destination selected by the driver using the keypad 12.

Claim 58 also covers a two phase navigation system but more specifically than in claim 62. The first phase of operation is described in page 3, line 18 to page 5, line 23 and shown in FIG. 1 (as described above).

The second phase of operation is discussed in the embodiment described in the Specification on page 7, line 23 to page 12, line 12, and shown in FIG. 6 and others. The second phase is summarized in the Specification on page 11, line 19 to page 12, line 12 with reference to FIGs. 4 and and 8.

Claim 58 includes DETECTING MEANS plus function that covers the embodiment of FIG.1 with receiver 10 detecting the location of the vehicle from received G.P. S. signals 13 , and communicating the location by the display of flashing light dot 14 together with the fixed destination location by flashing light dot 15.

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Claim 58 includes SENSOR MEANS plus function for detecting landmark information. This covers the sensor 27 shown in FIG. 4 for detecting roadside signs 24, or sensors 27 detecting the codes 43, 44 on buildings 41,42 of FIG. 8. This embodiment is described in the Specification on page 7, line 23 to page 11, line 18.

The detection of individual buildings is shown in FIG. 8 (buildings 41,42 and described on page 11, line 5 to page 11, line 18.

Claim 68 also covers a two phase navigation system for guiding a vehicle by heading direction alone . In a first phase the system is guided by the described two flashing light display alone with no prescribed route computed by the system as in the prior art. In the second phase, when close to the selected destination, the vehicle is guided only by a display of local landmarks enabling the driver to choose any route to the destination.

The COMMUNICATION MEANS plus function provides an uncluttered two dot display 14,15 on screen 11 as shown in FIG.1, and described in the Specification (discussed above). In the second phase of guidance, the COMMUNICATING MEANS provides a display of local landmarks. In both phases the system does not compute any travel route for the vehicle to follow but permits the driver to select any route desired using the heading information and local landmarks when near the destination.. See Figs. 7 and 8 for the second phase, and the summary in the Specification on page 11, line 19 to page 12, line 12.

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(6) ISSUES

All of the Appealed claims have been rejected under 103(a) citing the primary reference patent of Asano et al (no. 5,587, 911) combined with one of both of the secondary reference patents of Ohmura et al (no. 6,208,932) and Kuban (no. 5,682,030).

Specifically, all of claims 51, 52, 55 to 65, Incl., 67, and 68 have been collectively rejected under 103 (a) combining the patents of Asano et al and Ohmura et al.

The remaining group of claims 53, 54, and 56 have been collectively rejected under section 103 (a) combining the patents of Asano et al, Ohmura et al, and Kuban.

Claims 51, 53, 55 to 59, incl., and 62 to 68 incl., have been objected to for informalities.

(7) GROUPING OF CLAIMS

(with respect to the final 103(a) rejection of claims 51, 52, 55 to 65, incl., 67, and 68, the claims of the following groups stand and fall together)

GROUP 1—claims 51, 55, 62, 63, 64, 65, and 67.

GROUP 2—claims 52, 56, 57, and 64 (are contended to be separately patentable over GROUP 1.)

Group 3—claims 58, 59, 60, 66, and 68 (are contended to be separately patentable over GROUPS 1 and 2 above.)

Claim 57 should be considered alone.

(with respect to the final 103(a) rejection of claims 53, 54, and 66)

Claim 54 should stand and fall with GROUP 1 above.

Claims 53 and 66 should stand and fall with GROUP 3 above.

(8) ARGUMENT

103 (a) rejection of all claims 51, 52, 55 to 65, 67, and 68.

The primary cited reference of Asano et al has been incorrectly described in the FINAL REJECTION. A corrected description is given in the REQUEST FOR RECONSIDERATION after FINAL REJECTION (pages 6 to 9, incl.)

As correctly described, the Asano et al patent discloses a system that ALWAYS computes a defined travel route leading to a selected destination. This defined route is displayed on an initial screen display 60 (63- FIG 7 (a)). The driver can require the system to re-compute a different defined routing by depressing a switch 64 on screen 60. However, the system always computes or re-computes the guidance route and the driver can never select the route to be followed (and receive guidance from the system). According to the claimed invention, the vehicle is guided along any route selected by the driver.

In the patent, to begin guidance of the vehicle , the driver then depresses the GUIDE START KEY 66 on the first screen display FIG. 7 (a), and the second screen display appears (70- FIG. 7 (b). The second display shows the names of the streets and intersections along the computed route 73, the distances between the streets, and a further series of screen switches 76, 77, and others, to enable the driver to obtain additional screen displays. The ROUTE INFORMATION switch (upper-left FIG. 7 (b)) brings up the detailed route display FIG. 6 (col 6, lines 40 to 45). Alternatively, depression of any of the PERIPHERAL MAP switches 76 displays detailed street maps of any of the named streets (FIG 7 (c) and others).

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In the event that the driver wishes to change the computed travel guidance route, the driver depresses the RETURN SWITCH 77 (FIG. 7 (b)) to return to the initial display FIG. 7 (a). The driver then depresses the ROUTE CHANGE switch 64 and the system responds to re-compute a different guidance route for the vehicle to follow. After such re-computation, the driver starts all over again by depressing the GUIDE START switch 66 to return to the second display FIG. 7 (b) and begin guiding over the new recomputed route.

Thus it is seen that this patent ALWAYS computes or recomputes a defined travel guiding route for the vehicle and provides the driver with a series of different displays on the screen (that are individually selectable by screen switches) to guide the vehicle.

Errors in 103 (a) rejection of claims 51, 54, 55, 59, 62 to 65, and 67 (first group)

All of the claims in this first group of broadest claims define a navigation system wherein the vehicle is guided by heading direction alone using a single display or communication consisting of only two dots or markings on the screen. The Asano et al patent is entirely different as described above. It guides the vehicle along a fixed, defined, computed travel routing using a series of different displays (eg FIG. 7 (a), FIG. 7 (b), FIG. 7 (c) etc.) each of which is selected by the driver by depressing a different screen switch.

All of the rejected claims in this first group specify that the two dot single display is the only display or communication to guide the

vehicle , and the driver can select any available travel route to a desired destination being guided only by the two dots or markings.

The Ohmura et al patent is not relevant to the coverage of these claims, since this reference has been cited only to show a "windshield display" and these claims do not include this feature.

Errors in the 103 (a) rejection of claims 52, 56, 57, and 61 over Asano et al combined with Ohmura et al.

This second group of claims specify that the single two dot or marking display of the present invention is applied to the vehicle windshield (eg heads up display) whereby the display can be directly viewed by the driver during operation of the vehicle. The Final Rejection proposes to apply the series multiple screen displays of the Asano et al patent to the windshield of the vehicle as in the Ohmura et al patent.

However, such a combination would be unworkable and ,in fact, dangerous to the driver and occupants of the vehicle. The very detailed multiple screen displays of Asano et al (eg FIGS. 7 (a), 7 (b), 7 (c) etc.) would obscure or partially obscure the driver's vision of the road through the windshield, and would divert attention away from safe driving of the vehicle. The various switches in the Asano et al patent used to switch the different displays on the screen would be required to be located on the vehicle dashboard or elsewhere in the vehicle to

further divert the driver's attention. In the present invention, on the other hand, the simplified two dot display would neither obscure vision or divert attention from safe driving of the vehicle. Thus the proposed combination of these patent disclosures, as proposed, would not be very practical, safe, or obvious.

Additionally, there is no suggestion to be found in either reference that might suggest such a combination of the two patent teachings.

Errors in the 103 (a) rejection of claims 53, 58, 59, 60, 66, and 68.

This third group of claims sets forth a two phase guidance system wherein the vehicle is initially guided by a two dot heading display of the present invention until the vehicle nears its selected destination, and then the display shows the local streets, and landmarks to guide the vehicle directly to a selected landmark or building. Claims 53, 58, 59, 60, 61, and 66 specify that the local display identifies a specific building or other specific landmark.

The claims in this group have been rejected by combining the Asano et al patent with the Ohmura et al patent (windshield display) and further combining them with the patent to Kubin (detection of digitally coded signs). As discussed above, the two dot display of the present invention that guides the vehicle during the first phase by heading direction

alone is entirely different than the multiple display screens of Asano et al that guide the vehicle along a defined travel route computed by the patent system. The Kubon patent is cited only to show reading digital codes on road signs in the automotive field (see FIG. 16 and col. 20, lines 26 to col. 21, line 6). There is no suggestion in this patent of applying digital codes to identify individual buildings or landmarks, as set forth in these claims. Instead the patent discusses only the roadway sign application. Thus the combination of the three patents proposed in the Final Rejection involves only the selection of different parts from different patents without any suggestion to be found for such combination in the patents themselves.

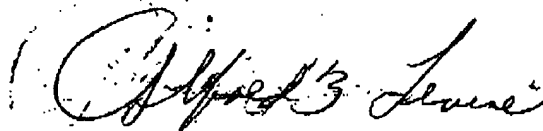
In summary, the Asano et al patent does not disclose a two phase system as claimed wherein the vehicle is guided by heading direction alone in a first phase using only a two dot display or marking. The Asano et al patent additionally does not disclose a system wherein individual buildings or landmarks at the destination can be identified in a second guidance phase. It would not be reasonable or safe to apply the detailed multiple screen displays of Asano et al to the windshield of a vehicle as disclosed in Ohmura et al. And the Kubon patent does not teach or suggest the use of digital codes on specific buildings or landmarks to identify such specific places.

Errors in 103 (a) rejection of claims 57 .

This claims specifies a more accurate guidance of the vehicle by the two dot or marking display by enlarging the scale of the display as the vehicle nears its destination. Since this two dot-marking display is not shown or suggested by any of the references cited, the improvement of its accuracy would most certainly not be obvious.

All of the claims in this application are believed to be patentable, and such action is respectfully requested by the Board of Appeals.

Respectfully submitted,



Alfred B. Levine, applicant and appellant

APPENDIX
(COPIES OF CLAIMS 51 to 68, Incl. ON APPEAL)

51. A non-computing navigation system for guiding a driver operated vehicle to a selected destination by employing only an uncluttered two location representation of the changeable location of the vehicle referenced to that of the fixed location of the destination, and wherein the system does not provide any specific routing path between the two locations but instead enables the driver to select any routing path guided only by the two location representation,

,detecting means for continually detecting exteriorly of the vehicle the changeable location of the vehicle,

display means energized by said digital detecting means and responsive to driver chosen destination to continually display only a pair of uncluttered markings corresponding to the changeable vehicle location and that of the fixed destination location, said display being free of any routing path interconnecting the two markings,

said markings being being displayed within the vehicle in such manner that they can be continually observed by the driver without diverting attention from safe driving of the vehicle.

52. In the system of claim 51, said driver operated vehicle having an observation window for observing roadway conditions, and said two location display being applied to said window to enable continuing viewing of said markings while observing the roadway conditions.

54. In the system of claim 51, said detecting means comprising a digital reader for detecting digitally coded markings located at geographically spaced locations exteriorly of the vehicle.

53. In the system of claim 51, said system providing a second phase of operation when the vehicle nears the destination, in said second phase of operation, digital sensor means for detecting digital codes on landmarks near the destination, which landmarks may include individual buildings, to identify said landmarks, said digital sensor means energizing said display means to superimpose an identification of said landmarks on said markings when the vehicle nears said destination,

whereby the vehicle is continually guided solely by the two markings on the display supplemented by the landmark identification when the vehicle nears the destination.

55. A non-computing navigation system for a driver

operated vehicle for continually guiding the vehicle to a selected destination without following any predetermined, calculated routing path,

said system providing an uncluttered map-free display of only two dislaced discrete markings, the first marking corresponding to the changeablegeographic location of the vehicle regardless of the route followed by the vehicle, and the second marking corresponding to a fixed geographic location of a selected destination,

said navigation system being free of o computation of any predetermined route path for the vehicle to follow to

said destination, and the two descrete markings providing the sole guidance by the navigation system until the vehicle nears said destination,

said display of the two markings being provided within the vehucle in such manner that they can be observed without diverting attention away from safe operation of the vehicle.

56. In the system of claim 5,
said vehicle having a conventional viewing window to permit
viewing of the streets and roads ahead of the vehicle, and the
display of the two discrete markings being applied to said
window, thereby to minimize distraction in operation of the
vehicle by the driver.

57. In the system of claim 55,
the display of the two markings on the screen being
enlarged in scale as the vehicle approaches closer to the
destination, thereby to more accurately guide the vehicle.

58. A two phase navigation system for assistance in guiding a driver operated vehicle to a selected destination along any travel route selected by the driver of the vehicle leading toward said destination, and wherein during a first phase said system continually communicates an uncluttered representation of only two markings corresponding to the changeable location of the vehicle and the fixed location of the destination until the vehicle nears the destination, and in a second phase, said system communicates as a supplement to said markings, local landmark information that may include an identification of an individual building, whereby during both of the two phases, the driver can chooses any route to the destination that is available or convenient, said system comprising:

in said first phase, detection means for continually determining the actual geographic location of the vehicle referenced to the geographic location of the destination and communicating said two geographic locations by only two markings exclusive of any other communication,

58 cont.

and in a second phase, when the vehicle has neared to the location of the destination, sensor means for detecting actual landmark information that may include an individual local building structure , and applying said landmark information as a supplement to the communication of the two markings,

whereby during both of the two phases, the driver can choose any available routing path toward the destination and continually receive advisory guidance from the system to assist in reaching said destination.

59. In the system of claim 58,

Said detection means including a visual display screen within the vehicle, and means for energizing said display to show only a pair of markings corresponding to the geographic location of the vehicle and the geographic location of the destination, thereby to continually advise the driver of the heading direction to reach the destination regardless of the routing path followed by the vehicle.

**60. In the system of claim 58,
said detection means including an audible generator for
communicating said markings and said landmark information.**

**61. In the system of claim 58,
said driver operated vehicle having an observation window for
enabling the driver to view roadway conditions, and display means
for applying said two markings to said window.**

62. A two-phase, non-computing, advisory navigation system for guiding a driver operated vehicle to any selected destination, and enabling the driver to to select any travel routing to said destination that is available or convenient, said system comprising:

a direction communicating means within the vehicle for continually advising of the heading direction to be followed for any travel routing selected by the driver,

said direction communicating means comprising detector means for continually determining the actual geographic location of the vehicle referenced to the geographic location of the destination, and including a communicating means enegized by said detector means to generate a map-free display within the vehicle displaying only two descrete markings corresponding to said location of the vehicle andthe location of the destination,

thereby continually advising of the heading direction to be followed to said destination regardless of the travel route selcted by the driver of the vehicle,

63. In a navigation system for a driver operated vehicle,
means for enabling the driver of the vehicle to select any
available routing to reach a selected destination while continuously
providing guidance to the driver to assist in reaching said
destination,

said means comprising a communicator means for conveying
a first uncluttered, discrete communication corresponding to the
changeable geographic location of the vehicle at all locations along
any routing chosen by the driver, and said communicating means
conveying a second uncluttered, discrete communication
corresponding to a fixed geographic location of a destination
selected by the driver of the vehicle, said first and second
communications being map-free and exclusive of other
communications by the guidance system until nearing the location
of the selected destination,

whereby said first and second discrete location
communications continually inform the driver of the vehicle of the
location of the vehicle referenced to that of the destination to guide
the vehicle toward said destination regardless of the routing chosen
by the driver of the vehicle.

64. In the system of claim 63,

said communicator means comprising a visual screen, and said first and second uncluttered communications comprising first and second discrete visual markings on the screen exclusive of any other visual presentation on the screen.

65. In the system of claim 63,

said communicator means comprising an imaging device providing first and second discrete visual markings corresponding to said first and second uncluttered communications, said imaging device applying said visual markings to the driver without diverting attention away from proper driving of vehicle, said uncluttered discrete markings exclusive of other visual presentations from the imaging device requiring minimized attention of the driver of the vehicle.

66. In the system of claim 63,
the addition of sensor means for detecting digital markings on
landmarks and structures in the vicinity of the selected
destination, which landmarks and structures may include
specific buildings and building addresses , said sensor means
energizing said communicator means to supplement said
uncluttered communications with the identity of said landmarks
and structures when the vehicle is in the vicinity of said
destination.

67. A non-computerized navigation system for a driver operated vehicle wherein the system communicates to the driver an uncluttered, map-free, representation limited only to the comparative geographic location of the vehicle referenced to the geographic location of a selected destination, and wherein the system does not compute any selected routing path for the vehicle to follow to reach said destination,

detecting means for receiving actual external information that continually identifies the changeable actual location of the vehicle,

communicating means energized by said detecting means and responsive to the inputting of said selected destination for communicating a map-free, uncluttered representation consisting solely of the geographic location of the vehicle and the geographic location of the destination,

said communicating means providing only two discrete displaced marking locations until the vehicle nears the location of the destination.

68. A non-computing, two phase navigation system for driver operated vehicles for enabling the continual guiding of the vehicle to a selected destination by heading direction alone during a first phase without reference to any selected routing path, and in a second phase occurring when the vehicle has arrived in the near vicinity of said destination, guiding the vehicle to the destination along any routing selected by the driver, by communicating localized information specific to the landmarks of the areas about the destination comprising:

in the first phase, communicating means for continually conveying a map-free uncluttered representation corresponding only to the relative geographic location of the vehicle referenced to the selected destination, thereby enabling the vehicle to proceed toward the destination along any routing chosen by the driver by heading direction alone without following any predefined routing of streets, roads, or road intersections,

and in a second phase occurring when the vehicle has neared the vicinity of the destination, communicating actual local landmark information near the destination to enable the vehicle to be guided directly to the destination by the local landmark information along any desired routing .

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